

**CARRY ASSIST DEVICE**Related Applications

[0001] This application claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Patent Application No. 60/448,769, filed February 20, 2003, titled CARRY ASSIST DEVICE. The entire contents of the above-noted provisional application are hereby incorporated by reference herein and made a part of this specification.

Background of the InventionField of the Invention

[0002] Certain embodiments disclosed herein relate to a carry assist for handling shopping or grocery bags, or other similar articles.

Description of the Related Art

[0003] Carry assist devices have been provided in the past to assist people, particularly the elderly or handicapped, in carrying one or more shopping or grocery bags. These bags typically feature flexible handles that the user grasps while carrying the bags. However, previous known carry assist devices have suffered from various drawbacks, some of which are addressed by certain embodiments of a carry assist device disclosed herein.

Summary of the Invention

[0004] In one embodiment, there is provided a carry assist device for receiving one or more bag handles. The carry assist device comprises a hollow handle that extends generally longitudinally from a first open end of the handle to a second open end of the handle. The handle has a top and a bottom, and the top defines a slot which extends generally longitudinally along the top. The handle has, near the top and at the first end, first and second projections which extend generally longitudinally beyond the bottom of the handle. The first and second projections form therebetween a first lead-in which is in communication with the slot.

[0005] In another embodiment, a carry assist device comprises a handle that extends longitudinally from a first open end of the handle to a second open end of the handle.

The handle defines a longitudinal channel. The handle has a top and a bottom, and the top defines a slot which extends longitudinally along the top. The slot is configured to permit entry of a bag handle into the channel. The handle forms, near the top and at the first end, a first lead-in which is in communication with the slot. The first lead-in extends longitudinally beyond the bottom of the handle.

[0006] In yet another embodiment, a carry assist device comprises a hollow member sized to be grasped in the hand of a user. The hollow member extends longitudinally from a first open end of the hollow member to a second open end of the hollow member. The hollow member has a top and a bottom, and the top defines a slot which extends longitudinally along the top. The hollow member forms first and second lead-ins at the first and second ends, respectively, of the hollow member. The first and second lead-ins each extends longitudinally beyond the bottom of the hollow member.

[0007] For purposes of summarizing the invention and the advantages achieved over the prior art, certain objects and advantages of the invention are described herein. Of course, it is to be understood that not necessarily all such objects or advantages may be achieved in accordance with any particular embodiment of the invention. Thus, for example, the invention may be embodied or carried out in a manner that achieves or optimizes one advantage or group of advantages as taught herein without necessarily achieving other objects or advantages as may be taught or suggested herein.

[0008] All of these embodiments are intended to be within the scope of the invention herein disclosed. These and other embodiments of the present invention will become readily apparent to those skilled in the art from the following detailed description of the preferred embodiments having reference to the attached figures, the invention not being limited to any particular preferred embodiment(s) disclosed.

#### Brief Description of the Drawings

[0009] Having thus summarized the general nature of the invention and its essential features and advantages, certain preferred embodiments and modifications thereof will become apparent to those skilled in the art from the detailed description herein having reference to the figures that follow, of which:

- [0010] Figure 1 is a perspective view of one embodiment of a carry assist device.
- [0011] Figure 2 is a partial side elevation view of the device of Figure 1.
- [0012] Figure 3 is another perspective view of the carry assist device of Figure 1.
- [0013] Figure 4 is a closeup perspective view of a hook of the device of Figure 1.
- [0014] Figure 5 is a second closeup perspective view of a hook of the device of Figure 1.
- [0015] Figure 6 is a closeup perspective view of another type of hook for use in the device of Figure 1.
- [0016] Figure 7 is a perspective view of the carry assist device of Figure 1, in an exemplary use environment.
- [0017] Figure 8 is a perspective view of another embodiment of a carry assist device.
- [0018] Figure 9 is another perspective view of the carry assist device of Figure 8.
- [0019] Figure 10 is a bottom view of the carry assist device of Figure 8.
- [0020] Figure 11 is a side elevation view of the carry assist device of Figure 8.
- [0021] Figure 12 is a top view of a modified version of the carry assist device of Figure 8.
- [0022] Figure 13 is a perspective view of the carry assist device of Figure 8, in an exemplary use environment.
- [0023] Figure 14 is a cross sectional view of the carry assist device of Figure 8.
- [0024] Figure 15 is a cross sectional view of another embodiment of the carry assist device of Figure 8.

#### Detailed Description of the Preferred Embodiment

[0025] Figures 1-7 depict one embodiment of a carry assist 100 which generally comprises a central handle 102 and integrally formed hooks 104, 106 on each end of the handle 102. In one embodiment, the carry assist 100 is molded as one piece from plastic; any suitable plastic such as but not limited to ABS, PVC, nylon, polystyrene, etc. may be employed.

**[0026]** Each hook 104, 106 forms a channel 108 suitable for receiving a handle of a bag (see Figure 7). Each channel 108 has an upper opening 110 through which the bag handle passes before coming to rest in the channel 108. The opening 110 is preferably more narrow than the remainder of the channel 108. Opposing projections 112, 114 extend generally horizontally toward each other over the top of each channel 108 to narrow the opening 110. Each hook 104, 106 preferably forms lead-in portions 116, 118 which converge as they extend toward the opening 110; the lead-in portions 116, 118 assist the user in guiding the bag handle through the opening 110 and into the channel 108. In the depicted embodiment, the lead-in portions 116, 118 are formed integrally with the upper portions of the projections 112, 114. The undersides of the projections 112, 114 preferably extend inward generally perpendicular to the channel sides, or in some other “abrupt” fashion, to prevent the bag handle from falling out of the channel 108 once the handle has been placed therein. In one embodiment, best seen in Figures 1 and 4, the projections 112, 114 form lateral extensions or nodules 124, 126 which further secure the bag handle(s) within the channel 108 without making more difficult the insertion of the handle(s) thereinto. In another embodiment, shown in Figure 6, the lateral extensions are omitted.

**[0027]** In one embodiment, each opening 110 is about 1/8” - 3/16” wide, each channel 108 is about 1/4” wide, and each lead-in portion 116, 118 is disposed at an included angle of about 45 degrees with respect to the horizontal.

**[0028]** As best seen in Figures 1, 3 and 4, the handle 102 preferably comprises three longitudinal ribs 128a, 128b, 128c. In other embodiments, the side ribs 128a, 128c may be omitted, and only the central rib 128b is employed. In still other embodiments, only the side ribs 128a, 128c may be employed. In still other embodiments, no ribs are employed and the handle 102 may comprise a single mass of material. Where employed, the central rib 128b may be formed integrally with the lead-in portion 116 and projection 112, and otherwise form the inner portion of the channel 108. The underside 130 of the handle 102 may, but need not, be curved to conform to the user’s fingers when the assist 100 is gripped. For example, a simple flat underside 130, or any suitable curved underside 130, may be employed.

**[0029]** In one embodiment, a base flange 132 forms the lower portion of each hook 104, 106. The base flanges 132 may be, as shown, of substantially equal width as the handle 102; in other embodiments, the flanges may taper inward as they extend away from the handle 102. One or more longitudinal stiffening ribs 134 may be formed on the underside of each hook 104, 106.

**[0030]** Figure 7 depicts the carry assist 100 in an exemplary use environment, in which the handles H of a bag B have been placed on the hooks 104, 106. The handle 102 of the carry assist 100 spans the distance between the handles H of the bag B; accordingly, the carry assist 100 provides a convenient and comfortable device for holding and carrying the bag B. It is contemplated that multiple bags can be loaded at one time onto the carry assist, and carried about, in a manner similar to that shown in Figure 7.

**[0031]** Figures 8-15 depict another embodiment of a carry assist 200. The carry assist 200 comprises a generally tubular member (or, alternatively, any other hollow member) that may, in one embodiment, be integrally formed or molded from any of the plastics disclosed above as suitable for forming the carry assist 100. An opening, in the form of a generally longitudinal slot 202, is formed at the upper portion of the carry assist 200. The carry assist may have a generally circular cross-section (as viewed in a plane orthogonal to a longitudinal axis of the carry assist 200 (Figure 14)); alternatively, the cross section may be oval (with the major axis oriented generally vertically (Figure 15) or generally horizontally in various embodiments) square, triangular, or any other suitable configuration.

**[0032]** The slot 202 is bordered by generally parallel beads or nodules 204, 206 which, in the depicted embodiment, have a generally circular cross-section. In alternative embodiments, the beads 204, 206 may take on other suitable cross-sectional shapes, such as an oval shape or the triangular shape employed for the projections 112, 114 of the carry assist 100 disclosed above. Lead-ins 208, 210 are preferably formed by projections 209a, 209b, 209c, 209d at either end of the slot 202, the beads 204, 206 tapering away from each other as they extend outward toward the ends of the carry assist 200. (If desired, the lead-ins 208, 210 may be omitted.) In one embodiment (best seen in Figure 10), the ends of the beads 204, 206 define curved surfaces as they taper away from each other; alternatively, they may define straight or flat surfaces as they taper away from each other.

**[0033]** As best seen in Figure 10, the projections 209a, 209b and/or the lead-in 208 preferably extend, either completely or partially, longitudinally beyond the bottom of the carry assist 200. The projections 209c, 209d and/or the lead-in 210 also preferably extend, either completely or partially, longitudinally beyond the bottom of the carry assist 200. The prominent projections 209a-209d and the relatively wide lead-ins 208, 210 advantageously facilitate quick and easy insertion of one or more bag handles into and through the slot 202. The user, grasping the carry assist 200, “catches” a portion of the bag handle(s) between the projections 209a-209b or 209c-209d. With appropriate manipulation of the carry assist 200 by the user, the bag handle(s) simply slide into the slot 202, aided by the lead-in 208/210. The prominence of the projections 209a-209d (and/or the lead-ins 208, 210) relative to the bottom of the carry assist 200, reduces the chance that the bag handle(s) will be undesirably “caught” by the bottom of the carry assist 200 when the handle(s) are being inserted into the slot 202.

**[0034]** Figures 14-15 depict cross sections that the carry assist 200 may employ in various embodiments. As mentioned above, the cross section of Figure 14 is generally circular, with the carry assist having a height and a width that are approximately equal. Figure 15 depicts a vertical, generally oval cross section, where the height of the carry assist 200 is greater than its width. The cross section of Figure 15 advantageously provides relatively broad, flat sides for the carry assist 200, which are useful for printing advertisements on (the sides of) the carry assist 200.

**[0035]** In one embodiment, the slot 202 is about 1/8” - 3/16” wide at its narrowest point, and the lead-ins are about 1/2” wide, and of generally uniform width, being defined by substantially parallel edges of the carry assist 200. In another embodiment, the lead-ins 208, 210 taper outward, growing wider as they extend away from the ends of the slot 202. In various other embodiments, the lead-ins may have any suitable tapered configuration (angled, curved, etc., or a combination thereof), or any other suitable configuration in which their width decreases as they extend inward, toward the slot 202.

**[0036]** In another embodiment, the preferred dimensions of the carry assist are as follows. The overall length of the carry assist 200 is about 5” and the bottom of the carry assist is about 3.75” long. Thus, in this embodiment each of the extensions 209 is about

0.625" long. The height of the carry assist 200 is about 0.85" and its width is about 1.0", while the slot 202 is about 0.125" wide and the lead-ins 208, 210 are about 0.4375" wide at their maximum width. The lead-ins 208, 210 transition to the slot 202 along curved portions having a radius of about 0.06". The rounded corners 216, 218 (see discussion below) have a radius of about 0.125". In cross section, the beads 204, 206 have a radius of about 0.098" and the balance of the carry assist 200 has a wall thickness of about 0.07".

[0037] As best seen in Figure 11, the ends 212, 214 of the carry assist may be oriented at an angle (thus causing the projections 209 to extend at an incline upward from the bottom of the carry assist 200); the depicted ends 212, 214 are at about 45 degrees with respect to the horizontal, making the carry assist 200 longer at the top than at the bottom. The ends 212, 214 (and, by extension, the projections 209) may form rounded points or corners 216, 218 at their upper extents, where they join the lead-ins 208, 210 (or the slot 202 where the lead-ins 208, 210 are omitted). Alternatively, the ends 212, 214 may be oriented at other angles, such as included angles of about 30 to 60 degrees with respect to the horizontal. As yet another alternative, the ends 212, 214 may be oriented vertically.

[0038] Figure 12 depicts another variation of the carry assist 200, in which the ends 212, 214 and projections 209 are oriented at a "reverse" angle, so that the carry assist 200 is longer at the bottom than at the top. This arrangement thus forms lead-ins 208, 210 and projections 209a-209d which extend downward and away from the ends of the slot 202.

[0039] Figure 13 shows the carry assist 200 in an exemplary use environment, in which the handles H of a bag B have been placed inside the carry assist 200, through the slot 202. In the depicted embodiment, the lead-ins 208, 210, the angled configuration of the projections 209a-209d and ends 212, 214, and the rounded corners 216, 218 cooperate to ease the insertion of the bag handles through the slot 202. The beads 204, 206 help retain the bags in the carry assist 200 until the bags are deliberately removed. The carry assist 200 provides a convenient and comfortable device for holding and carrying the bag B. It is contemplated that multiple bags can be loaded at one time onto the carry assist 200, and carried about, in a manner similar to that shown in Figure 13.

[0040] Although this invention has been disclosed in the context of certain preferred embodiments and examples, it will be understood by those skilled in the art that the

present invention extends beyond the specifically disclosed embodiments to other alternative embodiments and/or uses of the invention and obvious modifications and equivalents thereof. Thus, it is intended that the scope of the present invention herein disclosed should not be limited by the particular disclosed embodiments described above, but only with reference to the appended claims.